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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/395,894	09/14/99	BUAZZA	0 5040-03206/E
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IM22/1002

EXAMINER

HECKENBERG JR, D

ART UNIT

PAPER NUMBER

1722

DATE MAILED:

10/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/395,894

Applicant(s)

BUAZZA ET AL.

Examiner

Donald Heckenberg

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

## A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 95-106, 141-152, 154-182 and 184-188 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 95-101, 103-106, 141-152, 156, 157, 159-165, 167-182, 186 and 187 is/are rejected.
- 7) ☒ Claim(s) 102, 154, 155, 158, 166, 184, 185 and 188 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13. 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

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Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 95-99, 103-106, 147-150, and 156 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. (US 5,415,816) in view of Baskerville et al. (US 4,576,766).

Buazza et al. teach a first mold member having a casting face and a non-casting face and a second mold member having a casting face and a non-casting face, the second mold member being adapted to be spaced apart from the first mold member during use such that the casting faces of the first mold member and the second mold member at least partially define a mold cavity (see fig. 6). Buazza et al. further teach the lens forming composition adapted disposed in the molding cavity comprising a monomer that cures by exposure to activating light to form the eyeglass lens during use, a photoinitiator that initiates curing of the monomer in response to being exposed to activating light having a wavelength in a range during use (see col. 2, lns. 42-64). Buazza et al. also teaches a first light

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generator directing light toward the first mold member and adapted to generate activating light at a wavelength in the photoinitiator wavelength range to cure the lens forming composition and a second light generator directing light toward the second mold member and generating activating light (see fig. 3 and col. 14, ln. 64 - col. 15, ln. 9). Buazza et al. further specify the monomer to comprise a polyethylenic-functional monomer containing ethylenically unsaturated groups selected from acrylyl and methacrylyl (col. 13, lns. 22-24), or an aromatic containing bis(allyl carbonate)-functional monomer (col. 2, lns. 56-58). Buazza et al. further teach a cooler for cooling the mold cavity, the cooler comprising a distributor to apply cold air to the mold cavity and remove heat during use (col. 19, ln. 51 - col. 20, ln. 8, and col. 20, lns. 48-49). Buazza et al. also teach the the first light generator to comprise a fluorescent light source capable of emitting light at about 385 nanometers (col. 14, ln. 64- col. 15, ln. 9). Buazza et al. further teach the use of a filter positioned between the first light generator and at least one of the mold members for reducing the intensity of the light upon the lens forming composition (col. 4, ln. 27 - col. 5, ln. 28). It is noted that Buazza et al. teach the use of a filter made from frosted Pyrex

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glass (col. 4, ln. 60), which is substantially translucent to light.

Buazza et al. fail to teach the lens forming composition to comprise a light absorbing compound that substantially absorbs light. Buazza et al. further fail to teach the light absorbing compound to comprise a photochromic compound. Buazza et al. also fails to teach a controller to control light generators as such that pulsed activating light is produced.

Baskerville et al. teaches a lens-forming composition comprising a light absorbing photochromic compound for the purpose of producing a lens which blocks UV light (col. 1, lns. 5-10, and col. 2, lns. 65-67). Baskerville et al. further teach the use of pulsed activating light to cure the polymers in the production of a lens for the purpose of varying the intensity and the temperature of the irradiation reaching the curing composition (col. 3, lns. 34-38).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza et al. as such to have the lens-forming composition further comprise a light absorbing photochromic compound like the one taught by Baskerville et al. in order to produce a lens which blocks UV light. It further would have been obvious to one of ordinary skill in the art at the time of the

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Applicant's invention to have modified the apparatus of Buazza et al. as such to have controlled the light generators as such to produce pulsed activating light as suggested by Baskerville et al. in order to vary the intensity and temperature of the irradiation when necessary for a particular curing process.

5. Claims 100 and 151-152 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. modified by Baskerville et al. as applied to claims 95-99, 103-106, 147-150, and 156 above, and further in view of Costanza et al. (US 4,077,858).

Buazza et al. teach the system as described above, including the use of an initiator such as benzoin methyl ether (col. 13, ln. 53). Buazza et al. fails to teach the use of a co-initiator acted upon by a first polymer chain radical, and that forms a second polymer chain radical with the monomer.

Costanza et al. teach ultraviolet radiation initiated polymerizations, wherein benzoin ethers are used as photoinitiators along with organic amine co-initiators for the purpose of enhancing the rate of polymerization (col. 6, lns. 26-31).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza et al. as such to have used an amine co-

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initiator with the photoinitiator benzoin methyl ether as suggest by Costanza et al. in order to enhance the rate of polymerization. It is noted that such a system would inherently be as such that the photoinitiator would form a first polymer chain radical that would react with the amine co-initiator to form a first polymer chain radical, and the co-initiator would in turn react with the monomer.

6. Claims 101 and 157 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. modified by Baskerville et al. as applied to claim 95-99, 103-106, 147-150, and 156 above, and further in view of Portney et al. (US 4,842,782).

Buazza et al. teach the system as described above including specifically the use of a filter positioned between the first light generator and at least one of the mold members for reducing the intensity at different points of the lens molding material (col. 4, ln. 27 - col. 5, ln. 28). Buazza et al. fail to teach the use of a "hazy" filer.

Portney et al. teach the use of a hazy filter in the light induced curing of lens compositions for the purpose of creating a filter with different transparencies of light at different points in the molding composition (col. 3, lns. 15-21).



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It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza et al. as such to have used a hazy filter like the one taught by Portney et al. in order to create the different light intensities at different portions of lens forming material.

7. Claims 141-142, 144-145, 159-163, 167-172, 174-175, 177-180, and 186 rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. modified by Baskerville et al. as applied to claim 95-99, 103-106, 147-150, and 156 above, and further in view of Tarshiani et al. (US 5,422,046).

Buazza et al. teach the system as described above. Buazza et al. fail to teach a temperature sensor configured to measure changes in the temperature of the lens forming composition, and a controller being configured to adjust a dose of initiating light reaching the cavity as a function of the changes in the temperature of the lens forming composition measured by the temperature sensor over a period of time during use.

Tarshiani et al. teach a lens forming apparatus wherein a temperature sensor is coupled with a controller for the purpose of adjusting the light generator according to the temperature sensed in the molding cavity (col. 6, lns. 11-16 and 21-25).

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It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Buazza et al. as such to have provided the apparatus with a temperature sensor and controller as taught by Tarshiani et al. in order to adjust the light reaching the cavity based upon the temperature in the cavity.

It is noted that the controller of Tarshiani et al. acts as such to turn on and off the light generator during use. Accordingly this reads upon the language of "adjusting a dose of initiating light..... over a period of time" as recited in claims 142, 159, and 172 and "vary a duration of the light in response to the difference in temperature..... over a period of time" as recited in claim 144 and 174.

8. Claims 141-145, 159-163, 167-175, 177-180, and 186 rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. modified by Baskerville et al. as applied to claims 95-99, 103-106, 147-150, and 156 above, and further in view of Buazza (US 5,928,575). It is noted that the reference Buazza is applicable under 35 USC 102 (e) (and therefore under 35 USC 103) because although the reference contains one common inventor, the instant application names a different inventive entity. See Ex parte DesOrmeaux 25 USPQ2d 2040.

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Buazza et al. teach the system as described above. Buazza et al. fail to teach a temperature sensor configured to measure changes in the temperature of the lens forming composition, and a controller being configured to adjust a dose of initiating light reaching the cavity as a function of the changes in the temperature of the lens forming composition measured by the temperature sensor over a period of time during use.

Buazza (US '575) teaches an eyeglass lens curing system which comprises a temperature sensor and a controller, with the temperature sensor measuring changes in the temperature of the lens forming composition during use, and the controller configured to adjust the dose and intensity of the light reaching the cavity in response to the difference in temperature of the lens forming composition over time (see col. 44, lns. 28-47).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza et al. as such to have provided the system with a temperature sensor and controller as suggested by Buazza (US '575) in order to adjust the dose and intensity of light reaching the cavity based upon the temperature in the cavity.

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9. Claims 146 and 176 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. modified by Baskerville et al. and Tarshiani et al. as applied to claims 95-99, 103-106, 141-142, 144-145, 147-150, 156, 159-163, 167-172, 174-175, 177-180, and 186 above, and further in view of Coughanowr et al.

Buazza et al. teach the system as described and modified above. Buazza et al. and the secondary references fail to teach the controller working with the temperature sensor a proportional-integral-derivative (PID) controller.

The use of PID controllers is notoriously well known in the art as method of providing operating control. Coughanowr et al. is cited as teaching basic PID control, and it's advantages over other methods of control (pgs. 120-121). As such, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza et al. as such to have made the controller working with the temperature sensor a PID controller as suggest by Coughanowr et al. in order to provide an efficient method for controlling the system.

10. Claims 164 and 181-182 rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. modified by Baskerville et al. and Tarshiani et al. as applied to claims 95-99, 103-106,

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141-142, 144, 147-150, 156, 159-163, 167-172, 174, 177-180, and 186 above, and further in view of Costanza et al.

Buazza et al. teach the system as described above, including the use of an initiator such as benzoin methyl ether (col. 13, ln. 53). Buazza et al. fails to teach the use of a co-initiator that forms a second polymer chain radical with the monomer.

Costanza et al. teach ultraviolet radiation initiated polymerizations, wherein benzoin ethers are used as the photoinitiators along with organic amine co-initiators for the purpose of enhancing the rate of polymerization (col. 6, lns. 26-31).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza et al. as such to have used an amine co-initiator with the photoinitiator benzoin methyl ether as suggest by Costanza et al. in order to enhance the rate of polymerization. It is noted that such a system would inherently be as such that the photoinitiator would form a first polymer chain radical that would react with the amine co-initiator to form a first polymer chain radical, and the co-initiator would in turn react with the monomer.

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11. Claims 165, and 187 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. modified by Baskerville et al. and Tarshiani et al. as applied to claims 95-99, 103-106, 141-142, 144, 147-150, 156, 159-163, 167-172, 174, 177-180, and 186 above, and further in view of Portney et al.

Buazza et al. teach the system as described above including specifically the use of a filter positioned between the first light generator and at least one of the mold members for reducing the intensity at different points of the lens molding material (col. 4, ln. 27 - col. 5, ln. 28). Buazza et al. fail to teach the use of a "hazy" filter.

Portney et al. teach the use of a hazy filter in the light induced curing of lens compositions for the purpose of creating a filter with different transparencies of light at different points in the molding composition (col. 3, lns. 15-21).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza et al. as such to have used a hazy filter like the one taught by Portney et al. in order to create the different light intensities at different portions of lens forming material.

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12. Applicant's arguments filed August 1, 2001 have been fully considered but they are not persuasive.

The Applicant argues that Baskerville does not teach or suggest a lens forming composition adapted to be disposed within a mold cavity including a light absorbing compound. The Applicant points the passage in the Baskerville reference which teach the incorporation of fulgides and fulgimides into the lens forming composition which lead to obtaining an article which colours in sunlight (Baskerville, col. 1, lns. 43-46), the teaching that in the case of cast materials the precursor may not be converted into a helichromic compound at temperatures prevailing during the curing cycle, (Baskerville, col. 3, lns. 12-15), and the teaching that after removal from the mould that the cured article was pale yellow and not helicochromatic, that it was then exposed to constant radiation from a UV source for 60 minutes at 50 °C. (Baskerville, col. 5, lns. 21-25).

It is not seen that any of these passage teach away from the use of the compounds within a mold cavity, and thus part of a lens forming system. In fact, these passage do teach the claim language of a "lens forming composition... comprising... a light absorbing compound..." The first passage simply shows that the composition is in effect photochromatic, and thus light absorbing. While the passage in Baskerville at col. 3, lns. 12-

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15 teaches that the composition may not be used at certain curing temperatures, and the third passage a col. 5, lns. 21-25 suggests that further treatment of the cured article may be necessary, Baskerville further teaches (at col. 3, lns. 15-20) "In the case of CR39 it is necessary to operate a curing temperature under 100 °C and a substantially colourless or slightly yellow article is generally produced which can be rendered helicochromic by a post-treatment, e.g. irradiation from a UV source." This passage clearly suggests that the lens forming composition may be used in a curing operation to eventually produce a lens article. It is noted that while Baskerville teaches a post-treatment of the article, there is nothing the claim language of the instant application that excludes the use of a post treatment of the molded article. The claim language of the instant application requires only a lens forming composition that substantially absorbs light having a wavelength in a first range of use adapted to be used in a mold cavity. Baskerville's compound clearly meets this limitation.

The Applicant further argues that the lens forming composition of Baskerville could not be used within a molding cavity would render the invention of Baskerville unsatisfactory for its intended purpose. The Applicant points to the passage discussed above at col. 3, lns. 15-20 which discusses a post-



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treatment of the cured composition, and further the teaching at col. 3, lns. 38-41 which states "the lens may also be irradiated while it is still within the mould although in general this is unlikely to produce a satisfactory photoeractive lens."

This passage shows that the lens forming composition can be used in a mould. As discussed above, nothing in the claim language of the instant application precludes the use of further treatment after the molding of the article. Therefore, there is no need therefore to modify the lens forming composition including a light absorbing compound of Baskerville, as it can already be used in a lens forming composition in a mould cavity, and therefore alone meets the claim limitations. Additionally, it is noted that a limitation directed towards a particular method of molding the article, where it incorporated into the claims of the instant application would have no effect on the patentability of the system. The system claim incorporates the apparatus, and the composition that the apparatus acts upon. The claim is not a method claim, therefore the method limitations operation would not be germane to the issue of the system structure which is claimed.

The Applicant further argues that the rejections which incorporate the references of Costanza, Portney, Tarshiani, and Buazza (US 5,928,575) are improper as none of these references

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teach a lens forming composition adapted to be disposed within a molding cavity including a light absorbing compound.

As discussed above, this feature is taught and suggest by Baskerville. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Applicant further argues that the features of claims 97-99, 160, 162, and 163 are not suggested by the prior art.

These features are suggested by the prior art, as shown in the rejections of the previous Office Action and repeated above.

13. Claims 102, 154-155, 158, 166, 184-185, and 188 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this

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action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (703) 308-6371. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nam Nguyen, can be reached at (703) 308-3322. The official fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718, and the unofficial fax phone number is (703) 305-3602.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Donald Heckenberg  
September 27, 2001



NAM NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700